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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/546,981	04/11/2000	Anthony Matteo Gallo	RAL9-00-0035	4599

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IBM CORPORATION
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EXAMINER

PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
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2142

DATE MAILED: 04/10/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/546,981

Applicant(s)

GALLO ET AL.

Examiner

B. Prieto

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

Detailed Action

1. This communication is in response to application filed 04/11/00, claims 1-16 remain pending and are hereby set forth for examination.

2. Drawings have been objected to by the Draftsperson under 37 CFR 1.84 or 1.152, correction noted on PTO-948 is required. A proposed drawing correction or corrected drawings are required in reply to this office action to avoid abandonment of the application. The objection to the drawings is no longer held in abeyance. If reply does not include corrected drawings, proposed corrections, or reply to the drawings requirement, the reply would be held non-responsive (See MPEP §1.85 revised, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000; Para. (a) revised, 65 FR 57024, Sept. 20, 2000, effective Nov. 29, 2000).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over NAGAMI et. al. (Nagami) U.S. Patent No. 6,343,322.

Regarding claim 1, Nagami teaches features of the invention substantially the same as claimed, teaching a network router 601 (col 7/lines 1-10, 31-40 of Fig. 4) (switch) comprising a control unit 207 (control point) and a plurality of network processing units 202-206 (network processors) (col 8/lines 54-62), a method comprising;

(a) receiving data (data frames) from a network (Fig. 7, step S1, col 9/lines 27-29);

(b) performing transferring functions (col 1/lines 53-col 2/lines 5, col 9/lines 8-24, bridging functions, col 12/lines 64-67) (logical bridging, filtering, col 2/lines 53-56) of data frames received (Fig. 7, step S2);

wherein the data frames received are determined to be processed (i.e. destined) by the network layer or an equivalent processor (control point) (Fig. 4, 204, Fig. 7, S4) in a processing unit (Fig. 4, 204) (network processor) directly connected to said control point (Fig. 4, 207).

although the prior art of record teaches performing transfer (e.g. bridging) functions or operations on data frames received destined for a processor operating, manage, direct, or manipulate, i.e. "control" received data frames, this processor is not called "control point".

It would have been obvious to one ordinary skilled in the art at the time the invention was made to implement claimed invention with prior art teachings having element performing the same functions as claimed. Therefore, the nomenclature noted differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

Regarding claim 2 (c) determining whether said data frame is destined for said control point (Fig. 7, S4); and

(d) sending said data frame to said network processor directly connected to said control point when said step (c) indicates that said data frame is destined for said control point (Fig. 7, S4-S5).

Regarding claim 3,

(e) searching (looking up) a destination address in said frame in data storage, (e.g. table t1) (media access control (MAC) address database) (col 1/lines 53-64, Fig. 7, S2);

(f) sending said data frame to a unit having routing functions (logical router) (col 1/lines 38-46, col 8/lines 19-23, col 9/lines 33-37) when said look-up determines that said data frame requires processing by a logical router (Fig. 7, S2-S5, col 14/lines 50-col 15/line 4);

(g) looking up a destination address in a routing table (e.g. table t3) in said logical router (Fig. 7, S8); and

(h) sending said frame to said network processor directly to connected to said control point when said look-up determines that said frame is destined for said control point (Fig. 7, S4-S5, col 14/lines 37-col 15/line 3).

Regarding claim 4, modifying the header (setting a bit) in a portion (frame header) appended to said frame to indicate that said frame is destined for said control point (Fig. 7, S3, col 14/line 37-col 15/line 3).

Regarding claim 5, modifying, or adding or updating (i.e. learning) learning a source MAC address in said frame in a MAC address database (col 15/lines 24-30, col 9/lines 65-col 10/line 7); and sending said frame to said control point (i.e. sending said data frame to a unit having routing functions (logical router), col 1/lines 38-46, col 8/lines 19-23, col 9/lines 33-37, when said look-up determines that said data frame requires processing by a logical router Fig. 7, S2-S5, col 14/lines 50-col 15/line 4).

Regarding claim 6, looking up a destination address in a frame originating from said control point in a MAC address database; and forwarding said frame to a target network processor and port found in said look-up (col 14/line 37-col 15/line 3, table correlate destination and port, col 7/lines 9/lines 10-23 & 33-37, tables, col 15/lines 20-52).

Regarding claim 7, this apparatus claim comprises elements discussed on claim 1, same rationale of rejection is applicable. Further, wherein said plurality of network processors programmed with logical bridging and logical routing functions, wherein the network processor performs bridging functions and the control point performs the routing functions (combined routing and bridging functions, col 1/lines 64-col 2/line 5, combined routing L2 (bridging) and L3 (routing) functions (Fig. 4, datalink layer functions of units 202-206, & routing functions of unit 207 network layer functions (col 10/lines 61-col 11/line 22).

Regarding claim 8, determination and sending steps of claim 2 are performed by the units performing said logical bridging and logical routing functions (Fig. 7, S4-S5, units 202-207, col 11/lines 34-col 15/line 3).

Regarding claim 9, comprising limitations discussed on claim 1 and claim 5, same rationale of rejection is applicable.

Regarding claim 10, same rationale from claims 1-5 regarding a frame send from said network processor to the control point is applicable to frames received from the control point send to the network processor (Fig. 7, S7).

Regarding claim 11, this claim comprises a computer-usable medium storing computer executable instructions, said instructions when executed by processors in the apparatus of claim 1, implementing a method described in claim 1, same rationale of rejection is applicable to the software implementation claims

Regarding claims 12-16, this claim comprises the computer-usable medium corresponding to the steps performed in claims 2-6, same rationale of rejection is applicable to the software implementation claims.

Related U.S. Patents:

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure; pertinence is presented in accordance with to MPEP§ 707.05. Copies of documents cited will be provided as set forth in MPEP§ 707.05(a):

U.S. Patent No. 5,452,292 (09-1995)

Okanoue et. al. teaches receiving data frames from a network at a node via ports coupled to the network, determine whether said data frames are destined for the node, sending the data frames to a processor when determined that the frames are destined for the node; looking up a destination address (MAC) in said data frame filtering, flooding or discarding according to said destination address (MAC) (abstract, Figs. 5-7, 9b, Figs. 11-12, col 1/lines 48-col 2/line 8, col 3/line 46-col 4/line 50).

U.S. Patent No. 6,023,563 (02-2000)

Shani teaches a switching device configured to perform both bridging and routing functions in corresponding data link layer and network layer (abstract, col 6/line 16-43); looking up a destination address (MAC) on a routing table of said data frame filtering, flooding or discarding according to said destination address (MAC); learning a source MAC address in said data frame in a MAC address table (col 9/lines 18-57, col 10/lines 6-37), sending said data frame to an upper network layer processor if determined that said data frames are to be processed by the upper network layer processor (col 10/line 38-col 11/line 25).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (703) 305-0750. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Mark R. Powell can be reached on (703) 305-9703. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-6606. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Any response to this action should be mailed to:
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or Faxed to:

(703) 746-7239, for Official communications and entry

Or:

(703) 746-7240, for Non-Official or draft communications, please label
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(703) 306-5631 for TC 2100 Customer Service Office.

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Fourth Floor (Receptionist), further ensuring that a receipt is provided stamped "TC 2100".

(Bp)

B. Prieto
TC 2100
Patent Examiner
April 1, 2003


MARK R. POWELL
SUPERVISORY PATENT EXAMINER
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